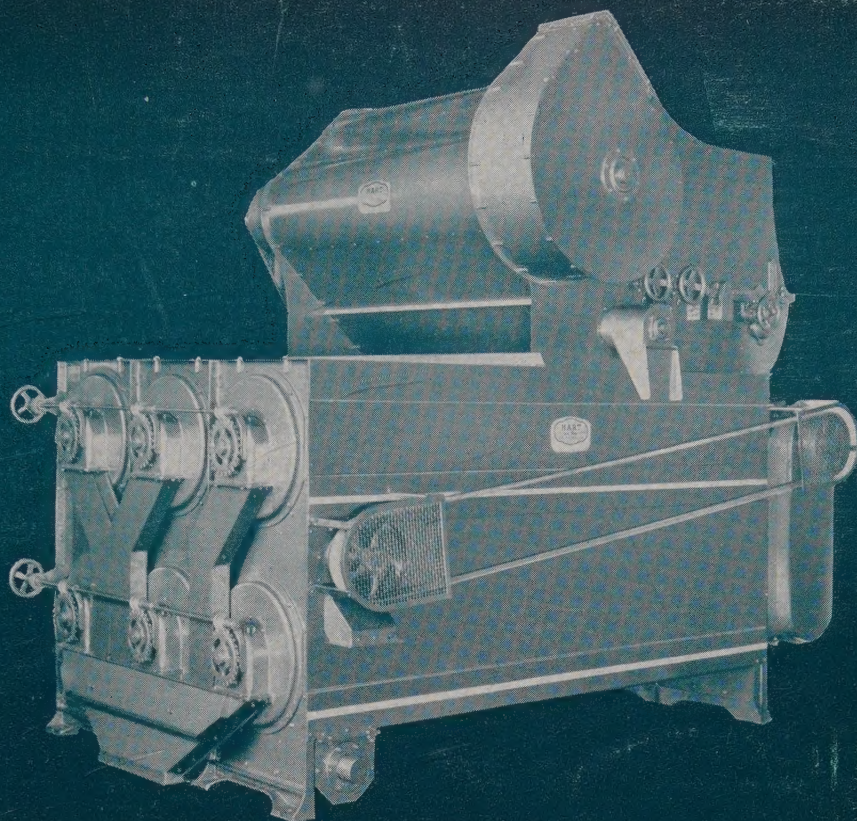


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HART-CARTER COMPANY

706 Nineteenth Avenue, N.E. Minneapolis, Minnesota

*April
1938*

HARRY ARMSTRONG DIES SUDDENLY

By H. A. Kimberlin and
Roy E. Browne

"Now that we live among shadows of his earthly presence and while his laudable work in behalf of our late convention is fresh and green in memory of all he did for our success, we are going to do that which the death of our friend and brother, Harry E. Armstrong, has summoned us to do. Though it be hard and sad to fill this mission, we shall not fail him now nor betray that confidence tendered us as he stepped across life's narrow vales into the light and dawning of a new and better world.



H. E. ARMSTRONG
Died April 8th

"Born with a progressive spirit that lends inspiration to master life's situations, Harry had planned and hoped to live down the approaching steps of an immediate death, but God in his wisdom knew best and in the early dawn of April 8th, 'He lifted his eyes into the hills from whence comes our help,' and 'seemingly whispering I am better now,' he passed into that silent dreamless sleep that marks the end for each and all here below.

"Over the cold and lifeless form of those we love and know, we weep and mourn our loss. At their bier we stand, our heads bowed in meek submission and with a voiceless breath we sigh our last farewell. With hesitating steps we turn and out into a dark and blighted

path we weave our way in sorrow, thinking and speaking a lot of noble things about them 'now that they are gone.' Now and then we pause and, looking in through the doors and windows of their earthly abode, we begin to search for words that express how much we love and miss them. Somehow it is human nature, but in paying our respects to him whom we knew so well, we speak of him now as we knew him best while here with us in the designs of life, spinning and weaving his daily sheathes, and now that its looms are silent and the discarded bobbins of his earthly work are stored in our attic of thoughts, we, his friends and comrades of Greater Kansas City want to say that while he was here among us, weaving threads of life into patterns he loved, 'He had spun and wove many beautiful and useful design in his 49 years of living.'

"Harry was born in Greenleaf, Kansas, in 1889. His first experience (and there are many to his credit) in this world of competition and achievement came as a mechanic in the Aviation Department of the Great Lakes Naval Training Station. Here his ability and conscientious perserverance was duly recognized and Harry was one of the few sent to Columbia University to instruct in engine ignition from an expert's standpoint.

"The next important decision in Harry's career was made in 1919, when he joined the Kansas State Grain Inspection Department. Always forging ahead and making friends all the way up the ladder of success, Harry eventually became an inspector. For the past

ten years we all knew him as superintendent of one of the largest and best elevators in Kansas City, — the Katy Elevator, operated by the Uhlmann Grain Company.

"Harry loved his work. In addition, he loved his fellowmen and was ever willing to lend a helping hand. As one of the directors of our Kansas City chapter of the Society of Grain Elevator Superintendents Harry was genuinely liked and now that he has gone from our midst, his life and work here with us shall always linger in our minds and memory,—something like the after-glow of a beautiful sunset radiating from the sky lines of heaven. We shall miss you, Harry, and until we meet again, — may God bless you and keep you."

* * *

There is not much that "GRAIN" can add to this beautiful and sincere tribute. We know that Harry Elwood Armstrong spent his leisure time cultivating flowers and that his gardens were listed among Kansas City's finest. We know, too, that he believed in the finer things in life. Surely he has left a score of pleasant memories for those who, like the Kansas City Chapter of Grain Elevator Superintendents, will miss him sorely.

Harry passed away at St. Luke's Hospital on April 8th. Funeral services were held Sunday, April 10th, from the Gates Chapel in Kansas City.

Mr. Armstrong is survived by his widow, Mrs. Enid Armstrong; his mother, Mrs. Martha Armstrong; and his brother, Mr. Tom B. Armstrong.

Editorial

By S. S. ORSTAD

YOUR RESPONSIBILITY

● Progress makes the world a more worthwhile place in which to live. Without progress elevators and processing plants would still be run through the aid of faithful, plodding "Old Dobbin" — would still be equipped with old-fashioned rope drives and upright spool spindle manila-rope car pullers. ● The more a man learns the more he is expected to learn. This is an ever-changing world. The individual who is content to coast along on past knowledge, whether gained through the hard road of experience or the highest University in the land, is slowly but surely going downhill. He is destined to become one of the "forgotten men" in this fast-moving Age. ● Have we ever stopped to consider how much is expected of us as a Superintendent? How many questions are asked of us during the course of one busy day? Do we merely give the same stock answer each time — or do we study those questions separately and perhaps store some of the daily problems into that corner of our minds reserved for "future discussion with a fellow-superintendent"? Do we believe that our judgment in all matters is infallible — that there is "nothing new under the sun" in elevator operation or maintenance about which we are not entirely familiar? If we do — look out! We are about to join the vast army of "has-beens"! ● It has been truthfully said that we can learn something every day of the year and every year of our lives. But we cannot do so by living within ourselves. We must mingle with our fellow-men and exchange ideas with an open mind. We must keep abreast of the latest improvements and by so doing give our employers 100% efficient service. ● The opportunity to mingle with our fellow superintendents recently passed for another year. There certainly was no better place to exchange valuable ideas than at that Kansas City Convention March 27-30; and every conscientious grain elevator superintendent owed it to himself and to his firm to be present. ● It was not possible for all of us to attend the Convention, however "GRAIN" is published for the sole purpose of keeping us informed of the newest developments and important trade news. Within its pages it tries to help us with our problems and add to our progressiveness through presentation of new ideas, equipment, etc. If it fails, then the purpose of "GRAIN" is lost and there is no reason for its existence. But it can not, will not fail. The rest is up to individual readers. Pulling together we can attain great heights for the industry, for ourselves.

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PROBLEMS
in
TERMINAL
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The Foreman and His Crew

By R. B. POW
Reliance Grain Company, Ltd.
Fort William, Ontario

As far back as our records of history go, men have worked in groups when any job calling for more than an individual effort was undertaken. When a team, or group of this kind, got together it was natural that some one man would be selected as leader so that the work could be carried on to better advantage. It was the leaders' duty to plan, direct and, sometimes, instruct those working with him so that the work might progress.

It was not until the days of the old trade guilds in Europe that the name foreman was used to designate the leader. When a group wanted someone to speak for them they chose one of their number to "come to the fore" — that is to be the foreman — and be their representative. So the name foreman came to be applied to the leader who was next to the working force.



R. B. POW
Fort William

Had Double Responsibility

He had a double responsibility, to the men on one hand and to the owners on the other. He is a Key man and the name is taken from the idea of the keystone of the arch. If the keystone is faulty the arch will fall and if the keyman, between the workers on the one side and the owners on the other, is at fault, then the organization will fail to accomplish the desired ends.

The foreman's leadership, if it is kindly, considerate and helpful, towards the members of his crew, will bring working success to a greater degree than any other factor, and his loyalty and cooperation with the management will promote the welfare of the whole enterprise. He is in the happy position of being able to instill the spirit of cooperation — esprit de corp — into the whole organization.

Satisfactory relations involve reciprocal obligations and, as one writer has stated, "Industrial good-will is not necessarily a virtuous will or a loving will" and company loyalty is not "gratitude for past favors, nor a sense of obligation, but an expectation of reciprocity." On the premise that the foreman has a very great influence on the morale of his crew let us inquire into some of the details of his relationships with the men working under him, on the one hand, and with his superiors in the organization, on the other.

Respond to Fair Treatment

First of all in dealing with his men, I think a foreman should be absolutely fair, give all his men square treatment and not play favorites with any one. Most men will meet on this common ground and respond with the best that they can give. When they know they will receive considerate treatment and will not be bawled out — especially when they do not deserve it, when experience has shown them that the foreman will not go off at halfcock and will have all the facts before him before he takes any disciplinary action, much has been done to build up a spirit of cooperation and satisfaction in the gang.

The foreman has the responsibility of the safety of his men and he, more than any other, should have those dangerous and unsafe places spotted and suitably guarded. It is a serious thing to have a man, who has to carry out his work under your instructions, placed in a position where he will suffer bodily injury in the performance of his duties.

It is serious from the employees point of view but often much more serious when considered from the point of view of his family. He is the bread winner and injury to him might work great hardship on the members of his household. It is true that, in most cases, there is insurance available or compensation but these, in no instance, make up to the employee and his household the full loss occasioned by loss of time; this apart altogether from

the economic loss entailed to the industry and the community. Yes, the foreman is the company's best safety man. He is right in the ranks with the men and in a position to carry out the safety policies of the company.

Sacred Trust in Foreman

When a man goes to work a foreman should feel that this man's wife and family are placing their trust in the foreman to send him home safe and uninjured when the day's work is done.

This is a sacred trust and entails obligations and, in order that the foreman can meet these responsibilities he should:

- (a) Understand all the machinery and equipment in his department.
- (b) Understand every danger point.
- (c) See that every dangerous condition receives immediate attention as soon as it develops.
- (d) See that every man is warned of the dangers connected with his job.
- (e) See that each man exercises proper care in doing his work.
- (f) That each man be carefully instructed before he starts to work.
- (g) That such instructing must be done by the foreman personally and not left to someone else.

The old saying "you can't change human nature" contains an important element of truth, for it means that all of us, regardless of clothes, vocabulary, social standing, language and color, need and desire the same fundamental things in life and possess the same basic traits. The demands which others make upon life may be gauged by the demands which we make, in essence, if not in detail. Home, family, prestige, security — these are as significant and influential in controlling the life of the humblest night watchman, as in controlling the life of the President of the Corporation.

Moreover, the stability of human nature means that the same kinds of appeals and methods tends to secure the same kind of response from different groups. Without that assurance of similar char-

President's ANNUAL ADDRESS

By S. S. ORSTAD, Federal Grain, Ltd.
Fort William, Ont.

Originally there was only one class of membership in the Society of Grain Elevator Superintendents and this was the active superintendent. It later developed that it would be advantageous to add another class to be termed "Associates" having all privileges excepting voting. This addition I consider has been of distinct advantage to the Society. It means that at each convention there are present representatives of manufacturers of equipment and supplies used in the industry and enables the superintendents to keep right up to date on all improvements.

The original clause which is printed on each application blank is as good to-day as the day it was first written and covers the fundamental aims, objects and aspirations of the Society. No progressive employer can object to them and with the employer who can see no virtue in them and prefers to benefit by the efforts of others without himself contributing we need not concern ourselves.

The duties of the office of president are not onerous. The first vice president is convention and general program chairman and on his shoulders lies the burden of seeing that the convention at which he is due to be elected president of the Society, is a success. Then having been elected

president he sits back and watches the next first vice president do his stuff.

Might I also state at this time that from my observations it has not been considered good form to permit associate members to make addresses in connection with the particular product they have for sale. The reason for this is obvious. It would not be possible to make flesh of one and food of another and if permission is given to one the convention would degenerate into a convention of sales talks. This does not prevent an associate member from taking part in discussions and arguments. Nor does it prevent an associate or his representative preparing an address on any subject if it is considered that he is better qualified to do that particular job than anyone else. The paper can always be prepared by him and presented by any superintendent without mentioning any specific trade name or product.

In many cases an elevator superintendent occupies a peculiar place in the industry. He stands alone some place between his men and his executives. His place, in my opinion is with the executives and he should be taken more into their confidence. For that reason I believe in conventions for elevator superintendents.

acteristics and similar mental habits education would be impossible; all types of association would be capricious; every individual would be a law unto himself.

Give Human Nature a Chance

Because, in essentials, people are moved by the same desires and satisfied with the same activities, we can be reasonably confident that ideas, purposes and aspirations which are found to have appeal of limited groups will probably find a general appeal, if only human nature is given a chance. Permanence of our human characteristics, however, does not argue against the possibility of im-

provement in individual or social life. It argues rather for a clear understanding of those characteristics and desires which are innate and those which are subject to change by education, habit formation, appeals to reason and feeling.

The successful foreman, even if he is unaware of his being so, will be found to be a student of psychology and, while he will disdain anything of the kind, will no doubt readily admit that he knows his men, and this is the real secret of his success. Tactfulness, added to fair play and understanding, will ensure an organization that functions smoothly and efficiently at all times.

No Knocking

Let us look now at the other of the two columns which the foreman, in his position as foreman has to deal with, and see what conditions will bring about a happy relationship between the foreman and the management. Here, I think, we have two characteristics that embrace under their wide mantles all the essentials. They are loyalty and cooperation. He should stand up for the institution and not do any "knocking."

He may not have a fully modern plant to operate, and in spite of the best effort it can make the management is unable to provide anything better, but it is not going to do any good to complain about the one or to criticize the other. It is better to do the best you can with what you have to work with and experience the satisfaction and peace of mind that come from the knowledge that you have done your best. Learn to appreciate the other fellow's troubles and be willing to help him out and the resulting harmony will bring in surprising dividends in accomplishments.

Being a Man

There is a remuneration beyond that received in the pay envelope, a something in addition to the bread and butter we must earn, that comes from the knowledge that the duties of our job have been done well, when we satisfy our sense of right, meet fully the demand to do our level best, do the square thing, play the game fairly, in short be the man.

We get in return those qualities of character that enrich life. It was pointed out to me long ago that you can draw from the faithfulness of your work, from the spirit you bring to it, from the purpose which emanates from you in its performance a munificent recompense in experience.

The employer, too, can give those who work for him something not included in the salary cheque. He can give encouragement, sympathy and inspiration. It will be a happy day for all when the spirit of cooperation and helpfulness permeates all our enterprises and when that day comes to the industrial field the conscientious foreman will have played a great part in bringing it to pass. When the mists of the dawning have cleared away he will stand revealed, in the sun of understanding and good will, as the key man.

Farm storage of wheat has, in our past experience, been uneconomic and impractical. There is less experience with sub-terminal space but the experience in that direction has to date been unfavorable.

Trade Must Build Elevators

The government now is embarking upon an experiment in farm storage of wheat. Experiments are to be conducted in three widely separated regions of the nation. We can only expect the results of those experiments to prove what experts and economists of the federal government have already reported, that it is not a practical means of wheat storage. But if the government is to pile up huge surpluses in the show windows of our wheat production plant, the problem of new storage space will be one of the most important problems to be met by the trade in the years immediately ahead.

Here, as in many other situations arising, and to arise, under farm legislation, there is an inclination with many people in our trade to spend time and effort condemning, and complaining about, the farm legislation.

It is only fair to say that most of us PRAISE some parts of the new farm bill of 1938. Our National Association, through its officers, has gone on record as favoring a fair trial of wheat crop insurance, which is provided for in this legislation. We can only be in favor of the establishment of laboratories where scientists will seek new industrial uses for farm products, another feature of the Act. Even though the underlying objective of soil conservation in some regions may be those of political advantage, yet most of us are in favor of the general idea of soil conservation and prevention of erosion.

World Unrest A Factor

There are other sections of the bill, touching upon marketing of grain, where we are in disagreement with the makers of the bill. We consider the general theory of the ever-normal granary to be unsound, except in the instance that the United States faces and fears implication in a world war of unusual proportions, soon. Unless there is a complete confusion to be expected in world trade, we have always at our disposal a world ever-normal granary for wheat. Wheat is harvested in some part of the world every month of the year; there is surprisingly little variation in the world acreage and production from year to year.

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Even in the United States there is less variation in wheat production than many people think. We seldom have a crop failure in all wheat producing regions in one year.

Yet we must look into the more probable reason for the ever-normal granary. Its need can be emphasized as part of the program of acreage control, as acreage control itself brings the greatest threat of possible famine years. If there is admission that crop control does increase the danger of famine years in wheat, then the ever-normal granary must be described as intended insurance against the dangers of crop control. The final intention, without doubt, is that of control of the price. Curiously enough here is intended production and price control in agriculture by a group that condemns production and price control in industry. Price control may have its apparent advantages, but it must also have its inevitable dangers. Some may think it a good thing to hold prices up in years of heavy production, but it is doubtful that all farmers will applaud the holding of prices down in years of short crops.

Cumbersome Hurdles Ahead

The new farm law has some added dangers for the grain man in both the country and the terminal market. In a year of heavy production when marketing quotas are in effect, penalty wheat, or that wheat which cannot be marketed without penalty, will be a problem to us. The buyer, meaning the country elevator operator, is responsible for the collection of penalties on excess marketings. He must be on the alert to prevent accepting penalty wheat without knowledge; this means that the government will have to work out, in cooperation with the trade, some system that is fool-proof against bootlegging of penalty grain, and yet a system not too complicated to permit of easy working. Even the terminal elevators must be careful that all wheat received is covered by written evidence of its marketability without penalty. It is possible, if not probable, that terminal elevators will, like country elevators, have to set up rather extensive book records of all grain they handle.

It is certain that they will have to keep books and records in such extent and kind as the Secretary of Agriculture may order. Many elevator operators have become frightened by this authority in the bill, yet it is safe to assume that the Secretary will make the rules as simple and workable

as possible under the law. The National Association is on record in Washington with a sincere offer of co-operation in the writing of these rules and regulations which will be important under the Act. When it comes time to write the rules for country buying of grain under the Act, we think the Secretary will be wise enough to call in representatives of independent, line and cooperative elevators in the wheat country, asking their honest counsel on regulations. It is the best insurance against impractical rulings that would bother both country buyers, farmers, and the administration itself.

Wheat for Insurance Premiums

Of immediate interest to terminal elevator operators is the wheat crop insurance plan, which gets under way this summer. The federal government will write wheat crop yield insurance, accepting wheat itself as the premium. Thus the government insurance corporation will come into possession of considerable quantities of wheat if the insurance plan is widely used. How will this wheat be handled and stored? We know there has been, and will be, a demand from certain points for sub-terminal storage built and operated by the government; there also will be a demand that the government lease storage facilities. But in this first year of the plan, we feel sure that the corporation will take the wiser course of using commercial storage. There will probably be careful regulations surrounding the storage of this government wheat in your terminals, which we will readily accept. It is important for us, in case the government uses commercial storage this year, that we demonstrate the efficiency and desirability of this type of storage for all years.

Under the wheat insurance plan, the loan plan and other still prevalent ideas in the federal department, there could be piled up large quantities of wheat each year in government hands.

This would be an important problem in storage in terminals, yet it seems to me that the gravest problem lies in the futures markets upon which we depend for the hedging of our terminal stocks. Speculation will probably be less active in a market over which hangs the continual threat of government-held supplies. A narrowing of speculative interest would increase the difficulties of hedging or what is termed the liquidity of the futures market.

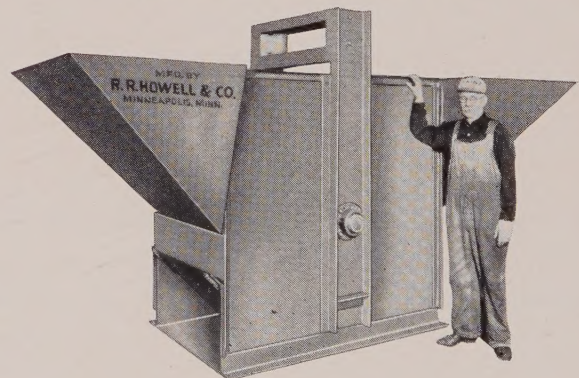
There still is a lot of immature and faulty thinking about the futures markets, and speculation in general. There still is a so-called "moral" resistance against speculation in grain, al-

though speculation is inherent in any kind of property ownership. Grain is largely marketed here in less than four months of the year; some one must own and hold that grain from the marketing months through the months when it is used by consumption. Any owner becomes a speculator, whether or not he actually sees or handles the grain. If individuals are not to own this surplus grain, (and ownership means speculation) then there is the answer that the government itself must own it and assume the same speculation for government instead of for the individual.

Witchcraft and Speculation

Not so many years ago all interest on money was considered usury, and taking of interest was punishable even by death. A man charging rent for the use of a house was considered a good citizen, but one charging rent for the use of money was held to be a criminal. When tradesmen slowly overthrew the feudal system, this faulty thinking about interest changed and today our government itself takes money from citizens by taxation and loans

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that same money back to the persons who paid it, the government taking interest on the loan. Witchcraft was a real and living issue in this country not so long ago; it was a part of the moral philosophy of whole communities. It seems ridiculous to us today that it ever should have existed. But it was only another example of the faulty thinking of certain groups under certain conditions. Today this faulty thinking about speculation (by which I mean ownership with a view to increase in value by time and place) is kept alive largely by politicians who find it a valuable campaign talking point.

Problems Unending

The problems of our trade are unending. As soon as one wave of interference passes by, another agitation takes its place. It is evident that we will never escape serious problems in

our business, for that is the nature of business as it is the nature of life itself. The firms that cannot meet competition will fail in the future as they have in the past.

In the meantime we try to keep ourselves informed in this day of action by groups. Our National Association maintains many types of service to the elevator groups. We have compulsory arbitration between members, avoiding the costly and distasteful clashes in civil courts. By our arbitration system, committees of trained and unprejudiced grain men make awards in trade disputes, after careful consideration of the evidence. These findings have always stood up under court tests, where appeal has been taken to the courts. Arbitration is one of the best, and fastest growing, outgrowths of modern business. It alone is worth many times the amount that any of your terminal elevators pay in dues to the National Association.

We also maintain, in conjunction with the National Grain Trade Council, a Washington, D. C. Office, not for any lobbying purpose at all, but in order that the trade may have prompt and correct information about the developments of national legislation, and federal rules and regulations.

There are a score of ways in which the National Association can and does serve you. We invite your careful attention to its whole national program of work. In the meantime we are proud that this Society of Grain Elevator Superintendents has seen fit to affiliate itself with the National Association. You are one of 23 organizations working in close cooperation with us in national matters.

I congratulate you upon what seems to be a most successful convention. I wish your Society every success for the coming year. I give my thanks to you for your kindness in including the National Association on your 1938 program.



GOING TO TOWN

Last year 1,166,000 persons moved from farms to cities while 719,000 persons moved from cities to farms. This was the first decrease in farm population since 1929.

On January first of this year, the farm population was estimated at 31,729,000 persons compared with 31,809,000 persons on Jan. 1, 1936, a net decrease of 80,000 persons. The total shift of population from farms to cities was partially offset by an excess of farm births over deaths. Births on farms were estimated at 716,000 and deaths at 349,000 during 1936.

An Open Letter to M. FRANK BEYER

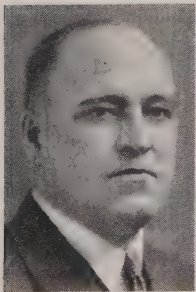
(And all others unable to attend the recent
Convention of Grain Elevator Superintendents)



Dear Mr. Beyer:

Your Convention Reporter will now endeavor to unfold the highlights of the Ninth Annual Meeting of Grain Elevator Superintendents, held at Kansas City, Missouri, March 27th to 30th, — thereby fulfilling a promise made early in March. Adopting the style of some of our most eminent radio announcers, allow us first to extoll the fine weather prevailing throughout Convention week — including a generous downpour of moisture during the Elevator tour Wednesday morning, March 30th, which, rather than dampening the spirits of your fellow members of SGES, only served to heighten their enthusiasm in the business at hand. As you well know, nowhere will you find snow and rain, dampness and moisture more welcome than to grain men gathered to discuss, among other things, the current crop outlook.

159 Registered First Day



S. S. ORSTAD
Presided

As early as Thursday of the preceding week, members with their wives registered at the Hotel Kansas Citian Headquarters. By the time the actual business sessions were under way, the registration list boasted 159 names. Your "key-hole" reporter, however, discovered some two dozen present who, for some reason or another, did not register.

The Ladies

Thirty-nine lovely ladies accompanied their husbands and participated in a program thoughtfully arranged by the Kansas City ladies committee, of which Mrs. Enid Armstrong was a charming chairman. Our fair visitors were treated to

illustrated lectures, dined in Kansas City's most unique and famous eating places, were escorted through the Nelson Gallery and Art Institute, furnished with tickets to the theatre, and taken sight-seeing through Kansas City's truly beautiful residential district. Mornings were devoted to shopping expeditions and every visiting lady proclaimed the Convention a huge success and one which they were loathe to see end.

SUNDAY



E. J. RAETHER
President-Elect

This was a day of rest and informal get-togethers for everybody except your Board of Directors, who met and discussed revising the constitution and by-laws; new memberships; the 1939 Convention Program Committee; Safety Campaign for the coming year; and dust explosions and hazards, etc., for hours.

MONDAY

Visiting superintendents displayed much interest in the Kansas-Missouri and Missouri Pacific Elevators and in addition to this tour, Monday morning was filled with informal chats, much handshaking and close scrutiny of the many instructive exhibits.

Applauds Our Objectives

In his address of welcome, E. F. Emmons, of Simonds-Shields-Lonsdale Grain Company, President of the Kansas City Board of Trade, said, "The Board of Trade regards your gathering as a family reunion. All of us regard this Society as a major group of the great family engaged in the marketing of grain in America. Nor are you distant cousins or in-laws in this family; yours is a

very vital part in American grain merchandising. We understand you; we rely upon you, and we applaud your objectives."



T. C. MANNING
K. C. Chairman
New First Vice

Tribute was then paid by Mr. T. C. Manning, superintendent of Uhlmann Grain Company's Wabash Elevator, Kansas City, and president of the local chapter, to the local committees who worked so diligently to make the Convention a success. Mr. Manning also expressed his gratification at the number of visiting members in attendance.

The following committees were appointed by Pres. Orstad:

Auditing: T. C. Manning, Kansas City; E. J. Raether, Minneapolis; Gilbert Lane Chicago; R. B. Pow, Ft. William; C. E. Grossman, Enid.

Resolutions: Gilbert Lane; H. H. Gear, Sioux City; G. J. Shaw, Port McNicoll; Harold Wilber, Decatur; Oscar Olsen, Duluth.

Constitution: E. H. Karp, R. B. Pow, T. C. Manning, E. J. Raether, William Gassler.

Frank Theis Speaks

Mr. Frank Theis, President of the Simonds-Shields-Lonsdale Grain Company, also expressed his interest in the Society, "I am tremendously interested in this Society. I think it is a great idea for you to get together and exchange ideas and experiences. I have long been an honorary member of your Society and you can believe me when I say that I greatly cherish my card."

President Bast Talks

Otto F. Bast, Minneapolis, President of the Grain & Feed Dealers National Association, another of the Society's valued

supporters, spoke on "The New Farm Act And Its Effect On The Grain Trade."



C. J. ALGIER
Chicago, Heads
Explosion Committee

Editor of *The Northwestern Miller* read a very thorough paper entitled "The Wheat For The World's Bread" after the Secretary had cooled off sufficiently and then President Orstad read a message from Henry Cox, Chicago, past President of the Society.

Moisture Testing

Much discussion from the floor resulted from Mr. T. C. Manning's timely paper, "Moisture in Grain and Moisture Testing" — which will be published in "GRAIN" at an early date.

Maintenance Control

Mr. William H. Kamp, superintendent of the Ralston-Purina Company of Kansas City, spoke on "Systematic Maintenance Control", expounding the sound theory that machinery check-ups at regular intervals does much to reduce costly repair work and plant shut-downs. His speech might well be considered one of those "highlights" your Convention Reporter mentioned, and should be read carefully by every conscientious superintendent. It, too, will be published in a later edition of "GRAIN."

Mr. Jack Coughlin, President of the Minneapolis Chapter, spoke on his so-called pet subject, "Automatic Grain Shovels." It is Mr. Coughlin's contention

that the present standard shovel could be greatly improved, and he has in mind building a puller of similar type but using a friction clutch of adequate size to handle the shovels at slow speed, instead of the jaw couplings, and hopes to have some-



HAROLD WILBER
Decatur, Ill.,
Director-Elect

thing more to tell his fellow members on this subject at a later date.

Gilbert Lane, superintendent of the Arcady Farms Milling Company, Chicago, concluded the afternoon sessions with a highly amusing account "Streamlining Your Operations."

MONDAY EVENING

Speakers during the Monday evening session were:

Mr. Fred C. Hoose, Vice President of the Norris Grain Company, Kansas City. Mr. Hoose put his finger on the pulse of our business ills and gave the attending superintendents much food for thought along these lines.

Oscar Cook of Kansas City recounted many humorous experiences in the grain business and furnished untold amusement for everyone.

Mr. Lane gave an interesting and educational talk on "What Helps Business Helps You", aided by the use of stereopticon slides.

Mr. H. H. Alfrey, Scale Inspector for the C. R. I. & P. Ry., Kansas City, followed with a paper on "Scales and Grain Weighing."

ATTENDANCE WAS FINE —Nothing Like This



"Mi'gosh, they were going to see me off"

Mr. Edgar Miller's very interesting paper "Grain and Moisture — and Heat and Damage" concluded the evening session and everyone, including your Reporter, felt that the first day had been crammed full of informative material.

TUESDAY

The morning was taken over with the showing the U. S. Department of Agriculture's film, "Dangerous Dust," which was preceded by an address of welcome

to the superintendents by Mr. Joseph L. Porter, president of the Kansas City Power & Light Company.

Mr. Manning presided at the meeting which followed and introduced Clarence Turning of Duluth, secretary of the Safety Committee, who read Chairman Oscar W. Olsen's committee report. The Safety awards were also presented by Mr. Turning. Winners of Safety trophies were also presented by Mr. Turning. Winners of Safety Trophies are published elsewhere in this issue.

Another of those "highlights" was Mr. R. B. Pow's (Reliance Grain, Ltd., Fort William, Ontario) talk, "The Foreman and His Crew" which merits much study. Be sure and read it. It is carefully thought out and basically sound.

Mr. Olsen told of the work of the Safety School in Duluth and outlined the safety plans for 1938-39.

This talk on safety was followed by a very thorough explanation by Mr. C. L. Darbe, Simonds-Shields-Lonsdale Grain Company, Kansas City, of "First Aid Work."

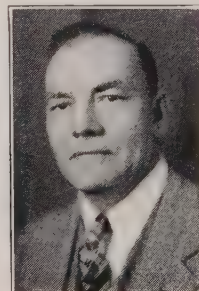
First Vice President E. J. Raether gave his views on the recent Fleischmann Elevator dust explosion and Mr. R. L. Gardner of Winnetka, Illinois, who was close by when the explosion occurred also gave a graphic description of what he saw.

Mr. R. B. Pow's past experiences as Mayor of Fort William stood him in good stead for the afternoon session, as he presided with all the poise of a veteran.

At this session Mr. E. H. Karp of Chicago, co-founder of the Society, spoke on "New Ideas"; Mr. H. O. Sneed of Kansas City gave a technical talk on "The Refining of Oil"; Fred Lake, Vice President of the Continental Grain Company of Kansas City spoke on "Superintendents Must Study Wheat Varieties"; J. W. Thomson of Chicago read a paper on "Property Maintenance"; W. G. Groseclose, Spencer Kellogg & Sons,



JIM SHAW
Pt. McNicoll, Ont.,
Director-Elect



H. L. HEINRIKSON
Sioux City, Ia.,
Director-Elect

STOP EXPLOSIONS BY USING REDLER CONVEYOR-ELEVATORS

REDLER CONVEYOR-ELEVATORS minimize explosion hazards because:

1. Redlers are completely sealed from intake point to discharge point, preventing dust from escaping into the air.
2. The gentle en masse conveying action prevents agitation.
3. REDLERS operate at slow speeds, and contact points are built of non-sparking metals.

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STEPHENS-ADAMSON MFG. CO.

72 RIDGEWAY AVENUE

LOS ANGELES, CAL. AURORA, ILLINOIS BELLEVILLE, ONTARIO.

Kansas City, talked on "Fire Hazards"; Percy Poulton, superintendent of N. M. Paterson Company, Fort William, gave a convincing talk on "Moisture and Growing Crops;" Harry Thoms, superintendent of Stratton Grain Company's Kinnikinnic Elevator in Milwaukee sent in a paper — "Our Car Dump is Not For Sale" which was read by Mr. Manning; James Auld, superintendent of the Northwestern Malt & Grain Company, Chicago, gave an excellent talk on "Cleaning Barley" which will also be published in "GRAIN"; and H. L. Heinrikson of Sioux City, always an authority on the proper cleaning of all grains, concluded the session.

Two illustrated lectures marked the beginning of the Tuesday evening session,

THE GRAIN ELEVATOR

On yonder bank there looms a brick-limbed giant

Whose mighty maw is crammed with wealth untold.

Above his head appears the glistening moon—

A God of plenty 'neath a coin of gold.

—James J. Sullivan

in Chicago Daily News

the first by Frank M. Stoll, Director of Public Relations at the Kansas City Board of Trade. His subject was "The Staff of Life," which showed the various methods of growing harvesting and marketing grain all over the world.



OSCAR OLSEN
Duluth, Minn.,
Made Safety Awards

Mr. Harry R. Clark, Chief Inspector and Weighmaster of the Omaha Grain Exchange, set forth his sound and practical views on "Wheat Improvement and Laboratory Control of Storage and Merchandising;" Roy E. Browne, Santa Fe Elevator, Kansas City, Kansas, read a paper on "Talking the Miller's Language;" and the evening was concluded with an impromptu speech by Mr. Henry Richardson, president of the Richardson Scale Company, Clifton, New Jersey, who informed the assembled superintendents

that he is working on an idea for a smaller car dumper and may have one ready for inspection when next year's Tenth Annual Meeting is called.

WEDNESDAY IN KANSAS

The Santa Fe Elevator and the new River-Rail Elevator were inspected Wednesday morning and much interest was displayed in the unloading facilities of both elevators.

This elevator tour was followed by a luncheon at the Kansas City, Kansas, Chamber of Commerce, where Ray T. Willett of the Chamber of Commerce and Clarence Motts, in the absence of Mayor McCombs, extended the city's official welcome.

Speeches were heard by O. H. Horner, President of Horner & Wyatt, Kansas City, whose subject was "The Grain Elevator Superintendent and the Grain Elevator Designer;" and Mr. A. B. Plummer, Chief



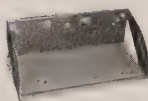
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Omaha Founder

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SCREW CONVEYORS BUCKETS and ACCESSORIES FOR EVERY MILL and ELEVATOR REQUIREMENT



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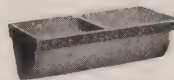
Salem



Minneapolis "V"



Rialto



Buffalo

Our manufacturing facilities embrace the most modern equipment and machinery for the production of Elevator Buckets in types and sizes to suit every Grain handling and Milling need. Improved design . . . wear and breakage resisting construction are noticeable characteristics of all "buckets" of "Calumet" manufacture.

As our bucket department manufactures every type of elevator bucket in general use today, our constant endeavor is to assure maximum capacity, low power, long service, with minimum repair and replacement expense for your bucket elevator.



*"Something
 ON THE BALL"*

Screw Conveyor Corporation

707 HOFFMAN ST.

HAMMOND, IND.

SCREW CONVEYORS



ELEVATOR BUCKETS

TRADE MARK REG.

U.S. PAT. OFFICE

Grain Inspector of Kansas, who discussed "New Types of Wheat."

After Mr. Plummer's address, President Orstad voted to continue this last business session at the Kansas Citian Headquarters for the purpose of electing officers for the coming year.

Here is your list of the new officers, as well as those re-elected:

Messrs. Shaw, Heinrikson and Wilber re-elected to the Board of Directors. The holdover directors are: Conrad Johnson, Omaha; James MacKenzie, Three Rivers, Que.; James G. Hayhoe, Minneapolis, Minn.; H. P. W. Kier, Chicago; Percy C. Poulton, Fort William, Ont., and Harry Thoms, Milwaukee.

On nomination from the floor the fol-

lowing officers were unanimously elected: E. J. Raether, Minneapolis, pres.; T. C. Manning, Kansas City, first vice-pres.; Gilbert P. Lane, Chicago, 2d vice-pres., and Dean M. Clark, Chicago, re-elected sec'y-treas.

Resolutions adopted made officers of local chapters responsible for the collection of dues for the national Society; extended a vote of appreciation to standing committees for their labors; expressed appreciation for the help of associate members in making the convention a success; thanked the local ladies and their committees for entertainment and assistance given visiting ladies; thanked the trade papers for past and future publicity given the activities of the Society; appreciated the diligent efforts of the Kansas City Chapter, with special mention of Messrs. T. C. Man-



JACK COUGHLIN
 Minneapolis Head
 Brought Crowd

ning, general chairman; H. E. Armstrong, general program chairman; S. S. Orstad, the Society's pres., and E. J. Raether, its vice-president, in preparing and guiding the convention proceedings; extended appreciation to the mayors, Bryce B. Smith of Kansas City, Mo., and Don McCombe of Kansas City, Kan.; thanked the Chambers of Commerce of both cities for their cooperation; similarly thanked the Kansas City Board of Trade and local terminal elevator managers; resolved that the Society's charter be draped for 30 days in memory of the late Godfrey H. Morgan, one of "its most loyal and outstanding supporters"; and expressed the appreciation of the Society for the "interesting and instructive talks" of visitors and speakers.

PRES. ORSTAD appointed the following to serve as a Dust Explosion Hazards Committee, to report monthly: C. J. Alger, Chicago; M. M. Noxon, Minneapolis; G. P. Lane, Chicago, and one member from each local chapter.

MR. MANNING read the report of the Auditing Committee, which showed receipts of \$3,204.94 and disbursements of \$2,722.82. As a deficit of \$700.64 was shown by the last report, the net deficit as of Feb. 28, 1938, was \$218.52. The report was approved and Sec'y Clark was complimented for his handling of the Society's affairs so capably.

After considerable discussion it was de-

Adulteration of Sound Corn

★

An Open Letter from Mr. Earl R. Evans
Evans Elevator Company, Champaign, Illinois

★

MY attention has come to Bulletin 159, issued April first by General Field Headquarters of the USDA, signed by Mr. R. T. Miles, Post Office Building, Chicago, Illinois. This bulletin is entitled, "Adulteration of Sound Corn." In all probability you have read this. It covers the blending of heat damaged, fermented, or sour corn and states that in the future this practice will be considered a violation of the Pure Food & Drugs Act, etc., etc.

It is not the intent of this letter to discuss at length the advisability or wisdom of this stand, yet, realizing that it is of vital interest to our membership, I am desirous of hearing through GRAIN the views of the trade and our Association upon this matter. If I correctly interpret the function of a good super, it is to check incipient damage, maintain as safe storage the maximum percentage of a crop, and to aid in the flow of the nation's grain supply with the very minimum of loss or damage.



EARL R. EVANS

Every Stage of "Off-Odor"

However, we have every stage of the so-called "off-odor" ranging from sus-

picious, doubtful, and light, up to genuinely hot and sour. Admitting that salvage might be carried too far to the point of very temporary apparent salvage, yet it seems to me that the line of demarkation is going to make a very difficult task for the super who takes as much pride in his output as any serious person would take in accomplishment in their particular field. It seems to me that we are in for a greatly decreased degree of efficiency and that we will be placed in the obnoxious position of being constantly on the borderline of legal transgression.

Sales values are not primarily the super's problem if he has done all he can with what he receives but the writer is wondering how long it will be before the grain trade and the farmers organizations, jointly using their influence, will create or re-establish a better market for LOW GRADES by revision of present tax setups. With an outlet for the low grades that this latest ruling tends to increase there would not be as serious a problem as otherwise. The distillers and corn products people CAN use low grades but the output is not as great as with the use of higher quality corn. Our present tax basis makes it highly advantageous, at least for the distiller, to use the best the market affords.

Suggests Tax Adjustment

Without discussion of the distilling business outside of the basic product

cided to continue the safety contest during the ensuing year, and a vigorous attempt be made to enlist a greater number of elevators in the contest. An increase to \$10 for each unit participating was voted.

It was suggested that future programs give more time to round-table discussions, and the elimination of long, tiring addresses.

Thus another Convention came to a close. Your Inquiring Reporter learned that all participants heartily agreed that

this Annual Conference had been well worth their time and that plans were already in the making for as satisfactory a gathering in Milwaukee next April 2, 3, 4 and 5th.

Associate's Night was a gala affair and fittingly climaxed a successful Convention. Percy Poulton remarked during the evening, "Why not start the Conventions with Associates Night? It's certainly a great place to get acquainted!"

What do you think?

Your Convention Reporter

used, it seems to me that the revenue derived therefrom could remain practically identical with existing revenues and still assess a distinctly higher tax on high grade grain and reduce the tax on low grade grain, thus providing an outlet which otherwise would not exist. This would also aid in minimizing the wide fluctuation between the range of QUALITIES of different lots that to the seller all too often seems of lesser degree than the price variation.

Without some narrowing of price spread, instead of the trend to widen it as this new interpretation will undoubtedly produce, we, as superintendents, are in for consideration as a factor of very sizable influence in our employer's financial showing. The new ruling lays our plants wide open for some handsome losses that simple care can avoid without injury to others.

The writer would be glad to be advised of any reaction resulting from the above paragraphs.

★

TO VISIT POWER PLANT

The Riverside plant of the Northern States Power Company is slated for an inspection trip by the Minnesota Chapter on April 26th, according to announcement by Chapter Secretary E. J. Raether, Minneapolis.

Dinner is to be served in the generating room and, according to the menu, is packed full of such delicious morsels as kilowatts and amps smothered in cycles. Dessert is to be short-circuits well seasoned with high-lines. No volts are anticipated although the trip is expected to magnetize well.

★

WRONGLY BLAMED

Rats and mice are often blamed for starting fires by gnawing the heads of matches. Yet experiments have proved that these rodents will not touch the combustible substance of a match, even when dying of starvation.

Don't overlook the POSTHUMOUS* BUGS

* Born after the father's death
Webster's Dictionary

Not even the GOOD KILL fumigation will keep your place free of insect trouble — unless it makes duds of the eggs about to hatch.

You may clean out the daddies and the mammas but — if those eggs are not disturbed, there'll be a new squad of pests coming right up.

LARVACIDE not only kills adults and larvae — it takes care of those eggs too — makes sure that they'll never, never hatch.

LARVACIDE penetrates where lighter fumigants don't — into floor and wall cracks — into every minute crevice. It gets to those remote, hard-to-reach spots where the pests love to lurk.

LARVACIDE is easy to apply. Needs no costly apparatus — nor extended shutdown — It is safer for your operators — costs much less in the long run — keeps the place clean with minimum work.

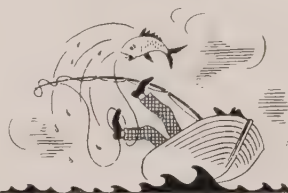
Write for complete information.

RODENTS

can't Survive. LARVACIDE, in light doses in runways and burrows, drives them out, to die in the open. No carcass nuisance. Write for special Rodent Control Booklet.

Using LARVACIDE
you spend Less time
on INSECT CONTROL
and you'll have

MORE TIME TO GO FISHING!



Larvacide

CHLORPICRIN

INNIS, SPEIDEN & COMPANY

Established 1816

117 Liberty St., NEW YORK

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1938 SAFETY COMMITTEE ANNOUNCED

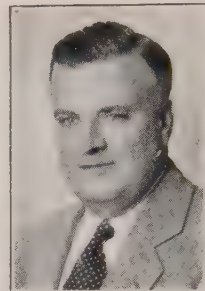
Oscar Olsen, Peavey Duluth Terminal Elevator Company, Duluth, Minn., Chairman of the SGES Safety Committee, announces the following appointments to this important group:

Emil Buelens, The Glidden Company, Chicago; Fred Sibbald, Grand Trunk Pacific Elevator Company, Ltd., Fort William; T. C. Manning, Uhlmann Grain Company, North Kansas City; Herbert

H. Gear, Flanley Grain Company, Sioux City; C. E. Grossman, Farmers National Grain Corporation, Enid; R. E. Browne, Davis-Noland-Merrill Grain Company, Kansas City; Paul H. Christensen, Monarch Elevator Company, Minneapolis; Malcolm M. Noxon, Ralston-Purina Company, Minneapolis; G. J. Shaw, Canadian Pacific Elevator, Port McNicoll; Harold Wilber, A. E. Staley Mfg. Company, Decatur; Henry Korn, Superior Elevator & Forwarding Company, Buffalo; W. D.

"SAFETY" VIA PAY ENVELOPE

Perhaps you have heard of the inventor who thought out some wonderful new devices, only after completion to find that someone had perfected similar and better devices many years before; or the man who always thought up so many hellishly good plans, which only had one thing wrong with them, — they simply would not work.



PERCY POULTON
Fort William

Perhaps this letter will place me in that class.

It occurred to me today, that one effective way to make workmen "Safety Conscious," especially in industries where "Safety First" is being instituted for the first time, would be to have small slips printed about one inch by two inches, bearing some suitable "Safety First" slogans, and attach them to their pay cheques, one on each of the 24 pay days in the year. Such ideas as, "Have you read the 'Safety First' Bulletin board this week"? "Have you reported that unsafe crossing you crossed yesterday," etc., etc., and such slogans as were contained in the note book Clarence Turning had for distribution and sale.

There is a simple continuity of "Safety First" propaganda about this idea which appeals to me, and is certainly not a costly one. I do not know of anything which is perused by a workman more attentively than his pay-cheque.

If you have never heard of this idea before, why not give it a bang in your routine work.

Yours sincerely,

Percy C. Poulton, Superintendent,
N. M. PATERSON & CO. LIMITED

Myers, Cleveland Grain Company, Indianapolis; Harry Thoms, Stratton Grain Company, Milwaukee; E. J. Martin, Norfolk Elevator Company, Norfolk; Percy McCallum, Saskatchewan Pool Terminals, Ltd., Port Arthur, and James Mackenzie, Three Rivers (Que.) Grain & Elevator Company.

While the entrance fee has been raised from \$6 to \$10 to more nearly cover the expense involved, on the other hand wider interest and greater competition is anticipated.

Whole Kernels

Chicago, in the year 1896, had no neon signs, no streamlined streetcars, no electric moisture meters, but the old town did have an up and coming young grainman by the name of E. I. Odell working as foreman in one of its towering elevators. Those were the days during the regime of O'Neil, the Barley King, who ruled his vast domain from his stronghold in Winona, Minn., and it was in one of the O'Neil elevators that young Odell teethed on *Black* and *Western* and every other class of barley under the sun.



E. I. ODELL
The "Dean"

But as each succeeding year ran off into the bin of Time, covering over the old year, the mighty O'Neil empire began going the way of all dynasties, and the cars in the yards of the Barley King's elevators grew rarer and rarer. About the turn of the century the house in which the now maturing Odell absorbed dust was sold to the Peavey Grain Company of Minneapolis. Times changed. The yard filled up and stayed choked with cars while the plant hammered along day and night. Bin spouts that long had grown accustomed to the soft kiss of barley awakened and sang to the strident tune of corn and wheat and rye. Dock spouts that almost had become barnacles from being tied to the dock wall now swung out continuously over the slip, pouring a never ending stream of grain into the gaping maws of hungry lake vessels. And calmly supervising the whole orderly uproar was Superintendent Odell, ex-foreman.

1907 saw Indian Territory Oklahoma taken into the Union as a State and it saw Kansas City take Super Odell from Chicago. Acting upon Horace Greeley's famous advice of "*go West, young man,*" upon receiving an offer from the Rosenbaum Grain Corporation, he turned his face to the rolling plains and left the Windy City behind. Installed in the

Super's shack at the Rock Island Elevator, the newcomer sensed and thrilled to the pulsing beat of the grain capitol of the West. There was a vital, energetic quality to it that reflected itself in the pounding, rumbling mammoths of elevators as they gorged on the tumultuous grain flood of the fields. E. I. Odell sucked in a gusty, dusty lungful of Kansas City air and plunged into his task.

Sixteen years rolled by. Sixteen years of riproaring toil in the hustling, bustling Rock Island Elevator. Millions upon millions of bushels of grain hit bin bottoms, filled, and were drawn down the spout. Switching crews appeared, shunted the unceasing line of box cars awhile, and disappeared from memory. Grainmen were hired, toiled in the dust for months or years, and then faded from sight. A war was fought and won. A multitude of changes were wrought in the handling and grading of grain. But the Super's chair in the Rock Island Elevator office still warmed to the britches of Odell.

As if the changes which had rocked the old Rock Island all these years were not enough, Davis-Noland-Merrill Grain Company stepped in and took over the house. But even that did not change Odell. He went right along with the new firm. Two more years rolled by and in 1925 the last of the changes which had swept unheeded past Odell's head occurred. His firm acquired the gigantic Santa Fe Elevator "A" and the Santa Fe acquired a new superintendent by the name of E. I. Odell. Today, after thirteen years of the same sterling service he had always rendered, Superintendent Odell is going stronger than ever in the largest house in Kansas City. An alert, jolly gentleman who scoffs at troubles as he has for years scoffed at the biblical "three score and ten," a staunch supporter of the SGES and a superintendent of national repute, E. I. Odell is respectfully and affectionately known as Dean of the Grainmen.

Theory of Centrifugal Discharge Elevators

By JOHN S. BUSH

KINGSTON (ONT.) ELEVATOR COMPANY



THE problem of determining the correct speeds, diameters of head pulleys and spacing of buckets pre-

sents quite an interesting discussion. In many cases where bucket elevators of the centrifugal type are used an apparent unavoidable spill occurs at the head pulley. Sometimes this spill is such that grain falls down the back of the leg, and in other cases the grain fails to reach the discharge side of the pulley and causes a dribble at the sides of the pulley or down the front of the leg.

To understand the principle upon which the centrifugal discharge elevator operates one should be familiar with the elementary principles of mechanics and forces. When the grain in a bucket is rising to the headpulley, the natural force of gravity (W) is acting upon it in a downward direction. Upon reaching the level of the pulley shaft at position 1 (Fig. 1) an additional force called centrifugal force acting radially from the center of rotation acts with a force equal to Wv^2/gR in which W = mass of grain in the bucket (pounds), v = velocity of the mass of grain in ft./sec., g = the acceleration of gravity, which is constant and is = 32.2 ft./sec./sec., and R = the radius from the center of the mass to the center of rotation.

The resultant of these two forces, viz., gravity and centrifugal, gives graphically the amount of force and the direction in which the grain tends to fly at that particular instant, and it will be apparent that if the speed of the pulley is such that centrifugal force exceeds that of gravity that at position 2 (Fig. 1) there is the probability of spill over the edge of the bucket, especially if the bucket has a low front and is overloaded.

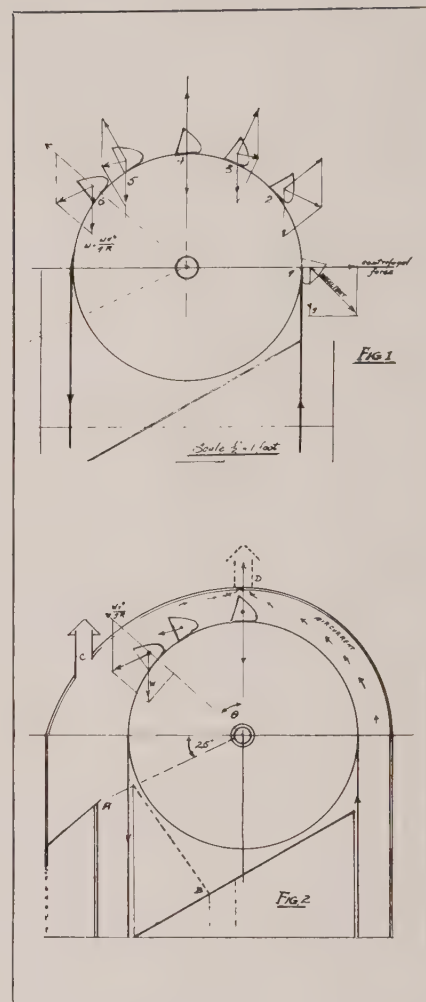
At position 4 gravity acts vertically downwards and centrifugal force directly opposite, and since it is desired that at this position the grain will neither fall out on the pulley or fly vertically upwards the two forces must be made equal. For this condition of equilibrium to exist W must = Wv^2/gR , then $v = \sqrt{gR}$, or since $v = \frac{\pi R.N}{30}$ where

N = the number of revolutions per min. then $N = 54.2 \frac{1}{\sqrt{R}}$. It will be seen

from this that the number of revolutions per minute of any centrifugal discharge elevator depends entirely upon the diameter of the headpulley and any diversion from this one way or the other will result in delayed or premature discharge if the buckets are not shaped so as to help the grain into the chute as in continuous bucket elevators.

Taking again position 4 (Fig. 1) if the speed is less than \sqrt{gR} the grain may spill out on the pulley and dribble down the back of the leg; on the other hand if the speed is more than \sqrt{gR} the grain may fly out of the bucket and as before follow down the back after striking the casing. This observation presents difficulty in determining the cause of spill by experiment in closed elevators since too great or too little speed give the same result as far as discharge is concerned. Some rules given to calculate speeds for centrifugal discharge elevators give only belt speed without reference to the diameter of the head pulley; such rules are absolutely useless.

With the bucket at position 5 (Fig. 1) the resultant of the forces is directed towards the mouth of the bucket and discharge will have commenced, that is, when $v = \sqrt{gR}$; according to theory, discharge begins on the descending side of the wheel where centrifugal force



equals the radial components of the force of gravity, or W , (Fig. 2), then $Wv^2/gR = W \cos \phi$, for this condition discharge is ready to begin at the top of the leg in high speed elevators since $\cos \phi = v^2/gR$ and, when $\cos \phi = 1$, the angle $\phi = 0^\circ$.

At lower speeds when $v = \sqrt{2/3 gR}$, $\cos \phi = .666 = 48\frac{1}{4}^\circ$ and discharge begins a little more than half way down the discharge side of the pulley.

Elevator Casings

Little improvement has been given to the design of elevator casings for high speed elevators in that no provision is made to take care of the swirls and eddies in the air current set up by the fan action of the buckets. Most elevators are designed with their ventilator in the position shown at D (Fig. 2) and it is

reasonable to assume that air currents will be directed as shown by the arrows and possibly a back draft from the discharge chute. This would prevent the buckets making a clean discharge and, if the lip (A) is not set low enough, grain will be carried past this point and thence down the back of the leg owing to the air pressure against the mouth of the bucket. The lip (A) should be 20° to 25° below the center of the pulley for high speed elevators, as shown in (Fig. 2).

Experiments have proved that for efficient discharge the casing must be rounded to keep the air constantly flowing toward the discharge chute. A ventilator placed as in (Fig. 2) at C would also decrease the possibility of back pressure.

In cases where the spill is bad it can be prevented by bolting a plate underneath the pulley as at B, thus forming a hopper. A chute can then be built to the bin or garner providing there is enough head room to permit this, and the bin not too far away. However, this procedure is only permissible when the spill occurs at positions 2 or 3 (Fig. 1) and may be termed a corrective for badly designed head equipment.

In some of the modern elevators, engineers are still designing elevator casings with nearly square tops, with corners where swirls and eddies are bound to be present. We may see in the near future casings with streamlines as in machinery of other industries.

The casing in Fig. 2 displays the idea of streamlining. The elevation on the rising side is described from the center of rotation of the pulley while the arc outlining the discharge side is described from a point half way down on the lower half of the center line, the radius being equal to $\frac{3}{4}$ of the diameter of the pulley plus the normal depth of the casing. For high speeds, however, this radius would equal the diameter of the pulley since the parabola described by the grain leaving the buckets would exceed these dimensions.

Spacing of Buckets

The spacing of buckets is a very important factor in the design of centrifugal discharge elevators. In Fig. 1 the position of the buckets is the correct spacing for a head wheel of this size and speed (13"). The resultant of the forces show in amount and direction the effect on buckets in the different positions. At 5,

if the spacing were decreased grain would strike the bottom of the bucket ahead and cause a splash and it is likely that a considerable amount would be carried down the back between the bucket and the belt. The resultant of the forces determines the direction and the velocity of the grain when leaving the buckets, hence the spacing must be such as to provide an unobstructed parabolic path into the chute.

Foot Pulleys

The success of an elevator depends too on the ratio of the foot pulley to the head pulley. This ratio is invariably too large; a small foot pulley not only decreases the loading efficiency of the

buckets but also increases the wear and tear on the buckets and belt.

Foot pulleys in grain elevators are usually $\frac{1}{3}$ the diameter of head pulley and sometimes smaller, and since centri-

fugal force varies as $\frac{1}{\sqrt{R}}$, the force tend-

ing to push the grain from the bucket is increased three times to that at the head pulley. It will be quite evident from this that the buckets can take no load until they are on the straight vertical lift. When the boot is fed from the back the buckets merely drag the grain to the front where they complete their loading. A boot is always best fed from the front when possible as the dragging from the back is a waste of power; as far as the effect of a small pulley on the belt is concerned, it tends to separate the plies by stretching or breaking the bond of friction rubber which holds them together. The minimum recommended ratio for foot pulleys is four inches in diameter for each ply of belt. As a belt

at K.C.



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Membership Teams' Scores

By Gilbert P. Lane, Chicago

While the "Bulls" and the "Bears" didn't exactly roll up such imposing scores as they did prior to the 1937 convention, nevertheless considerable interest was displayed. Results, which invariably select the 1938 New Membership Teams automatically, reveal the following — the first figure represents the new membership turned in from July 1, 1937 to March 31, 1938, and the second figure the number between July 1, 1936 and June 30, 1937:

T. C. Manning, Uhlmann Grain Company, Kansas City, 15-8;
Henry Keir, Bartlett Frazier Company, Chicago, 7-8;
E. J. Raether, Brooks Elevator Company, Minneapolis, 5-4;
S. S. Orstad, Federal Grain, Ltd., Fort William, 4-30;
Roy E. Browne, Davis-Noland-Merrill Grain Company, Kansas City, 3-0;

Barney Weller, Weller Metal Products, Chicago, 2-2;
Harry Madison, Simonds-Shields-Lonsdale Grain Company, Kansas City, 2-0;
Arvid Anderson, Crowell Elevator Company, Omaha, 2-0;
Tom Emmert, Southwestern Milling Company, Kansas City, 2-0;
Frank Beyer, Grand Trunk Pacific Elevator, Fort William, 1-9;
James Mackenzie, Three Rivers (Que.) Grain & Elevator Company, 1-4;
Paul Christensen, Monarch Elevator Company, Minneapolis, 1-1;
Henry Korn, Superior Elevator & Forwarding Company, Buffalo, 1-0;
Ralph Hetherington, Canadian Government Elevators, Fort William, 1-0;

Harry Armstrong, Uhlmann Grain Company, Kansas City, 1-0;
Frank Wilson, Norris Grain Company, Kansas City, 1-0;
Russell Maas, Screw Conveyor Corporation, Hammond, Ind., 1-0;
Henry Cox, General Mills, Chicago, 0-5;
Gilbert Lane, Arcady Farms Milling Company, Chicago, 0-4;
Jack Coughlin, Brooks Elevator Company, Minneapolis, 0-3;
Ed Frauenheim, Buffalo Forwarding Corporation, Buffalo, 0-3;
Percy Poulton, N. M. Paterson & Company, Ltd., Fort William, 0-3, and
Oscar Olsen, Peavey Duluth Terminal Elevator Company, 0-2.

First to Ring Bell

Hollis Graves, Superintendent of the Capitol Elevator Company, Duluth, is first in under the new 1938-39 wire with one re-instatements, and the year bids well to leisurely select the finest of timber for admission during the coming months.

New Members

By Henry Keir, Chicago

is worked on a pulley it becomes adjusted to the continuous bending. It is stretched slightly on one side and compressed on the other and it is a mistake to turn a belt inside out on the pulley to gain extra wear as this procedure reverses this action and causes serious internal stresses in the belt that will shorten its life considerably. It must be said, however, that most elevator belts are not discarded on account of the internal wear which causes the plies to separate; in grain elevators they invariably die of old age or succumb to external injuries which have no connection to the size of pulleys on which they run.

Bucket Capacity and Elevator Capacity

When conditions are favorable with regard to pick up and discharge the capacity of an elevator in pounds = $P.v/S$, where P = bucket capacity in pounds, v = belt speed ft./min. and S = bucket spacing in feet.

Manufacturer's catalogues give capacities of buckets in cubic inches. This is the actual contained volume; a bucket will not actually fill to this capacity, and, in calculating the lifting capacity of an elevator, it is proper to deduct 15% in the bucket capacity.

As I look back over the past year as Second Vice President of the Society I can say with pleasure that I am proud of the caliber of the new men brought into the Association. Not only do I know they will "stick," but I am confident that each one of them will materially contribute in ideas and participate in guiding our mechanical and operative efforts. Therefore, as I relinquish office at my own request, I take particular joy in presenting the following new members and reinstatements during the months of February and March — each of whom has been passed upon by our Directorate:



HENRY KEIR
Chicago

385—George L. Patchin, Appraisal Service Company, Minneapolis;
386—Verner Clark, Nebraska Consolidated Mills, Omaha;
387—George Robert Eltherington, Canadian Government Elevators, Lethbridge, Alberta;
388—William E. Deegan, Continental Grain Company, Kansas City;

389—William John McMullen, Canadian Government Elevators, Calgary, Alberta;
390—A. R. Negus, Victoria Elevator Company, Minneapolis;
391—Peyton A. Kier, Southwestern Milling Division, Standard Milling Company, Kansas City;
392—W. Herman Roennfeldt, B. C. Christopher & Company, Kansas City;
393—Clarence E. Hackleman, Continental Grain Company, Omaha;
394—William Mollett, National Milling Division, National Biscuit Company, Toledo;
395—Sherman Wise, Western Terminal Elevator Company, Hutchinson;
396—C. W. Gemlo, General Mill Equipment Company, Kansas City.

Reinstatements

6—R. E. Garber, Enid Terminal Elevator Company, Enid;
35—Edgar S. Miller, Production Editor, *The Northwestern Miller*, Minneapolis;
216—Axel Grenvall, Capitol Elevator Company, Duluth;

Cracked Kernels

HOT STUFF

"Twice I went through fire for my wife."
"Really?"
"Yes, first to win her; and second ever since!"

* * *

Talk that does not end in any kind of action is better suppressed altogether.
—Carlyle.

* * *

DARN THOSE SCULPTERS

"I'm a Venus de Milo girl."
"What's that?"
"Hands off!"

* * *

The blessed work of helping the world forward happily does not wait to be done by perfect men.—George Eliot.

* * *

SHE HAD A REASON

Visitor: "Your son is a cute little rascal."
Lady: "Yes, he takes after his father."
Visitor: "Oh, is his father cute, too?"
Lady: "No, but he's a rascal."

* * *

Believe me, every man has his secret sorrows, which the world knows not; and oftentimes we call a man cold when he is only sad.—Longfellow.

* * *

NO BACK SASS

Judge Keene: "Just where did the defendant hit you, Miss?"
Sally: "Well, Your Honor, if I had been wearing a license plate it would have been badly damaged."

* * *

The best rosebush after all is not that which has the fewest thorns, but that which bears the finest roses.
—Henry Van Dyke.

* * *

OH

"Why does the whistle blow for a fire?"
"It doesn't blow for the fire. It blows for the water. They've got the fire!"

NEW GUIDE

Golfer: "Caddy, why are you constantly looking at your watch?"
Caddy: "Watch, nothing! This is a compass."

* * *

The object of education is not only to produce a man who knows, but one who does.—Henry A. Rowland.

* * *

YOUNG CASH REGISTER

Doctor: (Inquiring after boy who has swallowed a half dollar) "How is the boy today?"
Nurse: "No change yet."



"Well, my dear, when shall we tell them about the stork?"

* * *

MATTER OF VIEWPOINT

First Moth: "What's the matter, Charlie? You look starved."
Second Moth: "I'll say. I just spent the week-end at a nudist camp."

* * *

We must breathe more, laugh more, love more.

* * *

NO WONDER

"What's the row over at the carnival?"
"Oh, a fake dentist sold the fire-eater a set of celluloid teeth."

DON'T BLAME HIM

Customer (having a rough shave): "I say, barber, have you got another razor?"
Barber: "Yes, why?"
Customer: "I want to defend myself!"

* * *

The factory that has no serious fires isn't "lucky"—that's just another name for owning adequate fire-fighting equipment.

* * *

THAT'S DIFFERENT

Passenger: "I don't sleep a wink, the way this train jerks. Is the engineer crazy?"
Porter: "No, boss, he's just teachin' his wife how to drive!"

* * *

Truth is that which serves us best in expressing our lives. A rotting log is truth to a bed of violets, while sand is truth to a cactus.

* * *

SQUIRTENLY

"John, I'm sure I heard a mouse squeak!"
"Well, do you want me to get up an' oil it?"

* * *

The road to success means: keep confidence with yourself; keep yourself thinking, acting, doing right — but above all keep honest.

* * *

WHAT A TIME

Then there was the fellow who was so hairy that he had to use a brush to see the face of his watch.

* * *

Nature punishes for most sins, but sacrilege, heresy and blasphemy are not in her calendar, so man has to look after them.

* * *

COLD BEANS

First Cannibal: "Is I late fo' dinner?"
Second Cannibal: "You is; everybody's eaten."

* * *

When it comes to fire, a man is no safer than his most careless act!

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